

28V Wide Voltage Range 4-Switch Buck-Boost Controller

DESCRIPTION

The MT5628 is a wide input range four-switch buck-boost controller with integrated drivers for external power MOSFETs. It can regulate the output voltage at, above, or below the input level.

The device employs the patented peak current mode with constant off-time control scheme that significantly simplifies control loop design and offers seamless transition between Buck, Buck-Boost and Boost mode operations. Proprietary inductor DCR current sensing eliminates the need for external current sense resistor and improves system power efficiency. With external compensation, the MT5628 can be optimized to operate with a wide range of input and output voltage at all current levels. The device can work with a variety of external MOSFETs and components to provide the best total solution for different output power requirements. Additionally, the MT5628 comes with internal soft-start, programmable inductor peak current limit, input under-voltage and over-voltage lockout, hiccup mode for short circuit or overload protection and thermal shutdown.

The MT5628 is available with a small footprint 4mmx4mm 20-lead QFN package.

FEATURES

- Input Voltage Range from 3.1V to 28V
- Output Voltage Range from 1V to 28V
- Up to 97.5% Efficiency
- Inductor DCR Current Sensing
- Programmable Inductor Peak Current Limit
- Accurate EN Threshold Voltage
- 600kHz Switching Frequency
- Output Voltage Power Good Indicator
- Cycle-by-Cycle Peak Current Limit
- Short Circuit Protection with Hiccup Mode
- Thermal Shutdown
- Available in 4mmx4mm 20-Lead QFN Package
- Pb-Free ROHS compliant

APPLICATIONS

- USB Type-C Hub and docking station
- Car Charging
- Monitor
- Power Banks and Electronic Cigarette
- USB-PD and Thunderbolt Ports for PCs
- Industrial Battery Powered Systems
- LED lighting system

TYPICAL APPLICATION

